CLAIMS

What is claimed is:

- 1. A circuit for use in an RFID tag, comprising:
 - a first RF port for receiving a first signal;
 - a second RF port for receiving a second signal;
- a signal combiner for generating a combined signal from the first received signal and the second received signal; and

an analog to digital converter for generating a digital signal from the combined signal.

- 2. The circuit of claim 1, wherein
- the first received signal has a different polarization than the second received signal.
- 3. The circuit of claim 1, wherein the signal combiner includes
- a first envelope detector for generating a first processed signal from the first received signal,

a second envelope detector for generating a second processed signal from the second received signal, and

an adder to generate the combined signal from the first processed signal and the second processed signal.

- 4. The circuit of claim 3, wherein the adder is adapted to add together the first processed signal and the second processed signal.
- The circuit of claim 3, wherein
 the first envelope detector includes an AC diode.
- 6. The circuit of claim 3, wherein the adder includes a node.
- 7. The circuit of claim 6, further comprising: a capacitor coupled to the node.
- 8. The circuit of claim 7, further comprising:a discharging component for discharging the capacitor.
- 9. The circuit of claim 8, wherein the discharging component includes one of a resistor, a current source, and a transistor.
- 10. The circuit of claim 1, wherein the analog to digital converter includes a peak detector to detect peaks of the combined signal.

- 11. The circuit of claim 1, whereinthe analog to digital converter includes a comparator.
- 12. A device for use in an RFID tag comprising: means for generating a combined signal from a first signal received at a first RF port and a second signal received at a second RF port; and means for generating a digital signal from the combined signal.
- 13. The device of claim 12, wherein the first received signal has a different polarization than the second received signal.
- 14. The device of claim 12, wherein the means for generating the digital signal comprises: means for detecting peaks from the combined signal, and means for comparing a version of the combined signal to a version of the detected peaks.
- 15. The device of claim 12, wherein the means for generating the digital signal comprises: means for detecting an average value of the combined signal, and means for comparing a version of the combined signal to a version of the detected average value.

- 16. The device of claim 12, further comprising:
 means for generating a first processed signal from the first received signal, and
 wherein the first processed signal is used to generate the combined signal.
- 17. The device of claim 16, wherein the means for generating the first processed signal includes an envelope detector.
- 18. The device of claim 16, further comprising:means for generating a second processed signal from the second received signal,andwherein the second processed signal is used to generate the combined signal.
- 19. The device of claim 18, wherein the means for generating the digital signal includes an adder.
- 20. A method for using a circuit of an RFID tag, comprising: receiving a first signal at a first RF port; receiving a second signal at a second RF port; generating a combined signal from the first received signal and the second received signal; and generating a digital signal from the combined signal.
- 21. The method of claim 20, wherein

the first received signal has a different polarization than the second received signal.

22. The method of claim 20, wherein

the digital signal is generated by

detecting peaks from the combined signal, and comparing a version of the combined signal to a version of the detected peaks.

23. The method of claim 20, wherein

the digital signal is generated by

detecting an average value of the combined signal, and comparing a version of the combined signal to a version of the detected average value.

- 24. The method of claim 20, further comprising:

 generating a first processed signal from the first received signal; and
 using the first processed signal to generate the combined signal.
- 25. The method of claim 24, wherein generating the first processed signal is performed by detecting an envelope of the first received signal.
- 26. The method of claim 24, further comprising:

generating a second processed signal from the second received signal; and using the second processed signal to generate the combined signal.

- 27. The method of claim 26, wherein combining is performed by adding together the first processed signal and the second processed signal.
- 28. The method of claim 26, wherein the combined signal is generated at a node.